

Amendments to the Drawings:

Please replace sheets 1, 2, 6 and 7 of the drawings with the attached replacement sheets 1-4. The replacement sheets incorporate the desired changes in the drawings, and each sheet includes all of the figures that appeared on the immediately prior version of that sheet.

Attachment: Four (4) Replacement Sheets

Remarks:

Applicant respectfully requests reconsideration of the Office action dated March 18, 2005 in view of the foregoing amendments and the following remarks. Prior to entry of the present amendment, claims 1-48 were pending in the application. Claims 5-7, 11, 16, 19-22 and 39 were previously withdrawn from consideration. Claim 10 stands rejected under 35 U.S.C. § 112, second paragraph. Claims 1-4, 8, 10, 12-14, 17, 23, 25, 28, 30, 33-36, 40, 42 and 45-48 stand rejected under 35 U.S.C. § 102(b). Claims 4, 18, 24, 26, 41 and 43-44 stand rejected under 35 U.S.C. § 103(a). Applicant expresses appreciation to the Examiner for the indication of allowability of claims 9, 15, 27, 29, 31 and 37-38 if rewritten in independent form.

Objections to the Drawings

Figs. 1, 2, 3, 4, 13 and 16 are objected to under 37 CFR §1.83(a), the Examiner indicating that the diagram boxes in these drawings must be labeled with an appropriate descriptive phrase. Figs. 1, 2, 3, 4, 13 and 16 have been amended to address the Examiner's concerns. Specifically, diagram boxes 24, 24b, 26, 60, 182a, 182b, 210, 212 and 214 have been labeled with an appropriate descriptive phrase. Applicant submits that the proposed amendments do not add any new matter, and instead merely correct informalities in the originally presented drawings.

Rejection under 35 U.S.C. § 112

Claim 10 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 has been amended to depend

from claim 8 instead of claim 1. Accordingly, applicant requests withdrawal of the rejection based on 35 U.S.C. § 112.

Rejections under 35 U.S.C. § 102

Claims 1, 3-4, 10, 13, and 33 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,305,158 to Fujishima et al. (hereinafter Fujishima). Claims 1-3, 12, 14, 17, 28, 30, 33-35, 40, 42, 45, 46, and 48 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,119,342 to Harrison, Jr. et al. (hereinafter Harrison). Claims 1, 3, 8, 10, 12, 14, 17, 23, 25, 28, 30, 33-36, 40, 42, 45, 47, and 48 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,235,338 to Iinuma et al. (hereinafter Iinuma).

Claim 1 has been amended to recite that “at least one transducer in the transducer array is configured to attach to a sample material.” Fujishima, Harrison, and Iinuma all fail to disclose a transducer configured to attach to a sample material.

Fujishima’s transducer array is a television tuner adapted to receive UHF and VHF signals and is not configured to attach to a sample material. In fact, Fujishima does not discuss a sample material at all.

Both Iinuma and Harrison disclose ultrasound imaging systems with transducers that emit ultrasonic signals to a living body and receive reflections from the living body. Neither reference discloses transducers configured to attach to a sample material. This is at least in part, due to the inherent nature of ultrasound systems. Ultrasound systems use ultrasonic signals to gather information about internal tissues and organs, which means that the materials targeted by ultrasound systems could not be attached to transducers. Therefore, Iinuma and Harrison could

not be expected to, and indeed do not, disclose that “at least one transducer in the transducer array is configured to attach to a sample material,” as recited in claim 1.

Accordingly, applicant submits that claim 1 clearly distinguishes over Fujishima, Harrison, and Iinuma. As claims 17, 33, 34, and 48 are amended to include subject matter similar to the subject matter added to claim 1, applicant submits the foregoing arguments apply with equal force to claims 17, 33, 34, and 48. Applicant therefore submits that independent claims 1, 17, 33, 34, and 48, as well as claims 2-4, 8, 10, 12-14, 23, 25, 28, 30, 35, 36, 40, 42, and 45-47, which depend from claims 1, 17, 33, and 34, are allowable for at least the foregoing reasons. Thus, applicant requests withdrawal of the rejections based on 35 U.S.C. § 102(b) and submits that claims 1-4, 8, 10, 12-14, 17, 23, 25, 28, 30, 33-36, 40, 42, and 45-48 are in condition for allowance. Furthermore, as generic claims 1, 17, 33, 34 and 48 are in condition for allowance, applicant requests that withdrawn claims 5-7, 11, 16, 19-22 and 39 are rejoined and considered.

Rejections under 35 U.S.C. §103

Claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Iinuma in view of Harrison. Claims 4, 18, 26, 41, and 43-44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Iinuma in view of U.S. Patent No. 6,419,633 to Robinson et al. (hereinafter Robinson).

Claim 4 depends from claim 1, claims 18 and 26 depend from claim 17, and claims 41 and 43-44 depend from claim 34. Applicant submits that claims 4, 18, 26, 41, and 43-44 are allowable for at least the same reasons as claims 1, 17 and 34 (as given in the previous discussion of rejections under 35 U.S.C. § 102). Thus, applicant requests withdrawal of the rejections based on 35 U.S.C. § 103(a) and submits that claims 4, 18, 26, 41, and 43-44 are in condition for allowance.

New Claims

Applicant submits that the new independent claims largely reexpress many of the elected claims depending from original claim 1 in independent form. Therefore, applicant submits that the new claims are within the scope of the previously elected species. Each of independent claims 53-55 incorporate subject matter from original claims that the Office action indicates are allowable. Claim 53 corresponding to original claim 9, written in independent form. Claim 54 corresponding to original claim 15, written in independent form. Claim 55 corresponds to original claim 29, written in independent form. Inasmuch as the original claims were indicated allowable if rewritten in independent form, applicant submits that claims 53-55 are in condition for allowance. Claims 9, 15 and 29 have been cancelled without prejudice.

Claim 56 incorporates subject matter from claim 2, which stands rejected by the Office action. Claim 2 recites that “the transmission path between such transducer and the output processing subsystem is selectively enabled and disabled via operation of a buffer coupled within the transducer’s transmission path.” With respect to claim 2, the Office action argues, “Harrison, Jr. et al. discloses for each transducer, the transmission path between such transducer and the output processing subsystem (see Figure 1) is selectively enabled and disabled via

operation of a buffer (daisy bus 25, see column 4 line 61 - column 5 line 35)." Applicant respectfully disagrees. At column 5, lines 30-32, Harrison states that "the only switching that takes place in the channel that processes the received echoes during the formation of a scan line occurs at zone select switch 32." Therefore, Harrison clearly teaches that a switch, not a buffer, is used enable and disable the transmission path.

Furthermore, the buffers disclosed in Harrison are buffer amplifiers. Harrison does not teach that the buffers are further configured to selectively enable and disable transmission paths between transducers and output processing subsystems. According to Harrison, "The output tap of delay line segment 60 is coupled by a buffer amplifier 66 to a switch 68." Col. 8, ll. 20-43. The buffers disclosed in Harrison are coupled to switches that enable and disable transmission lines, but the buffers themselves do not enable or disable transmission lines.

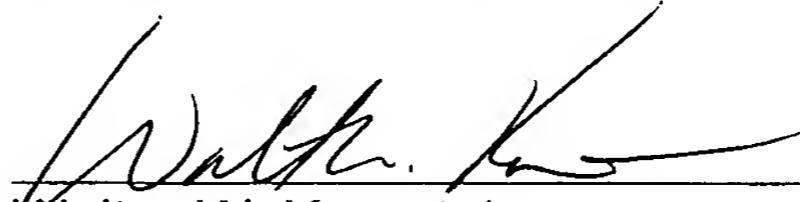
Therefore, Harrison fails to show or teach that "the transmission path between such transducer and the output processing subsystem is selectively enabled and disabled via operation of a buffer coupled within the transducer's transmission path," as recited in claim 2. Accordingly, applicant submits that claim 56, which reexpresses original claim 2 in independent form, is allowable for at least the foregoing reasons.

Conclusion:

Applicant believes that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicant respectfully requests that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on June 20, 2005.



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